



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

**Department of
Environmental Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 2542.38.014
2542.38.009

August 30, 2017

Andrew Sorum
US Army Corps of Engineers Alaska
CEPOA-PM-C (FUDS)
PO Box 6898
JBER, AK 99506-0898

Re: **Decision Document: Dutch Hbr-Mt. Ballyhoo Drums
Cleanup Complete Determination**

Dear Mr. Sorum:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program (CSP) has completed a review of the environmental records associated with the Dutch Hbr-Mt. Ballyhoo Drums site (Site) located at Ulatka Drive; Mount Ballyhoo, in the City of Unalaska. Based on the information provided to date, it has been determined that the contaminant concentrations remaining onsite do not pose an unacceptable risk to human health or the environment and no further remedial action will be required unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Site, which is located in the ADEC office in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:

Dutch Hbr-Mt. Ballyhoo Drums
Ulatka Drive; Mount Ballyhoo
Unalaska, AK 99685

Name and Mailing Address of Contact Party:

Andrew Sorum
USACE
CEPOA-PM-C (FUDS)
PO Box 6898
JBER, AK 99506-0898

DEC Site Identifiers:

File No.: 2542.38.014 & 2542.38.009
Hazard ID.: 25716

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background

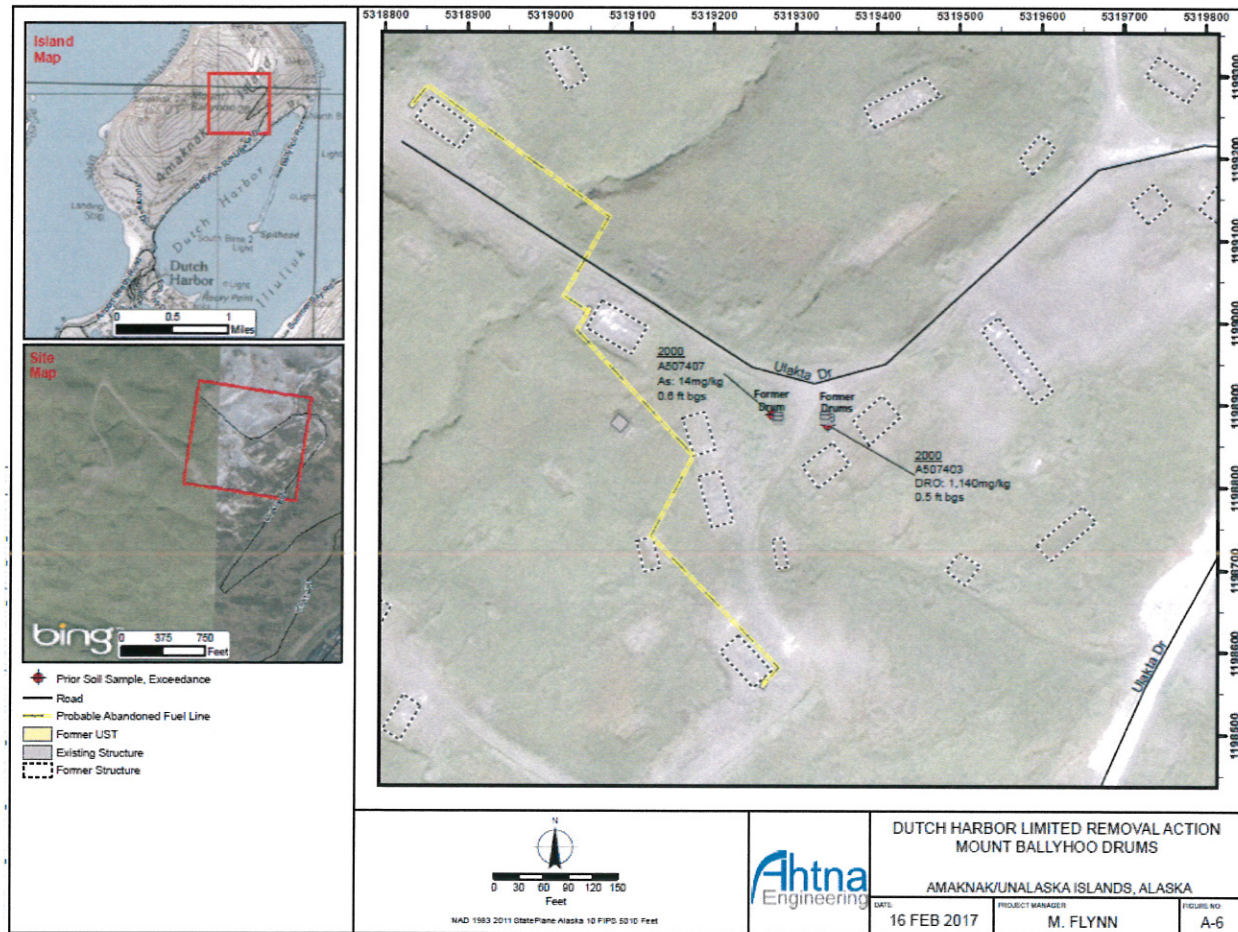
Amaknak and Unalaska Islands are located in southwestern Alaska, in the Fox Islands group of the Aleutian Islands chain. The islands, which are connected via bridge, are located approximately 800 air miles

southwest of Anchorage, Alaska. During World War II, the US military established several Army posts and a Naval Operating Base in the Dutch Harbor/Unalaska area, with construction beginning in July 1940. A naval air station was commissioned and formally named Fort Mears in September 1941. A large group of soldiers were stationed in the Dutch Harbor vicinity. Most of the larger facilities were built around Margaret Bay as part of Fort Mears Army Garrison 1. Most of the facilities were left intact when the military withdrew from Dutch Harbor and Unalaska in 1947.

The Site is located south of Ulatka Drive in the Mount Ballyhoo area on Amaknak Island (as shown in Figure 1). It is currently owned by Ounalashka Corporation. There are no permanent human dwellings on the property. The area is quite undeveloped and currently used primarily for recreational purposes. Although it is zoned as a marine related/industrial area, the developed industrial/marine related facilities are located approximately 1600 feet (ft.) southeast of the Site along the shoreline. Groundwater is not currently used as drinking water source. Groundwater table is expected to be at 100 ft. or more, below ground surface (bgs).

Three 55-gallon drums were removed in 2000. Two empty drums were located in a drainage gully; the third drum was filled with approximately one gallon of water and one gallon of dried paint sludge was located near the old paint shop. Diesel ranged organics (DRO) were found at 1,140 mg/kg. Arsenic was also detected above cleanup level.

Figure 1 – Site Layout and Sample Locations



Contaminants of Concern

In 2000, the 55-gallon drums were removed from the Site. One soil sample was collected from beneath the two drums in the gully and another sample underneath the drum near the paint shop, both at 0.5 ft. bgs. Soil samples were analyzed for gasoline range organics (GRO), DRO, residual range organics (RRO), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB), Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver), and zinc.

DRO was detected in the soil sample collected from underneath the two empty drums in the gully at 1,140 mg/kg, exceeding the ADEC Method Two cleanup criterion. Arsenic was detected in both samples at 6.1 and 14 mg/kg, respectively, exceeding ADEC Method Two cleanup criterion. All the other analytes were either non-detected or detected below the applicable cleanup criteria.

Based on these analyses, the following contaminants were considered Contaminants of Concern at the Site originally:

- DRO
- Arsenic

Cleanup Levels

The most restrictive of ADEC Method Two cleanup levels apply to the Site is the Migration to Groundwater Levels, which is 230 mg/kg for DRO as established in 18 AAC 75.341. However, an alternative cleanup level (ACL) for DRO of 8,300 mg/kg was calculated using site-specific total organic carbon (TOC) data collected in 2008. The detection of 1,140 mg/kg falls below the applicable ACL and is considered protective of human health and environment at the site.

Arsenic was detected in both samples, exceeding ADEC Method Two cleanup criterion of 0.2 mg/kg. One sample was below the background cleanup concentration calculated for Amaknak and Unalaska Islands (10 mg/kg). Another sample, although slightly exceeding the calculated background cleanup level, was still considered within the expected range for natural soils in the area.

Groundwater water was not encountered during drum removal or excavation activities. Groundwater table is expected to be at 100 ft. bgs or more. Groundwater is not currently used as drinking water source in Mount Ballyhoo area. The closest surface water is about 1800 ft. southeast of the Site. Cleanup levels for these media are not applicable.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (mg/L)	Surface Water (ug/L)
DRO	8,300	N/A	N/A
Arsenic	10	N/A	N/A

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
ug/L = micrograms per liter

Characterization and Cleanup Activities

In 2000, the 55-gallon drums were removed from the Site and shipped offsite for disposal. Two confirmation soil samples were collected at six inches bgs beneath the drum locations. Duplicate and triplicate samples were also collected from this location. The soil at both locations was noted to be sandy with some fines and rust flakes from the drums. There was no apparent odor or other physical evidence of contamination. In addition, one TOC soil sample was collected ten feet from each drum location at six inches bgs.

DRO was detected in the sample collected from the gully, but it fell below the site specific ACL of 8,300 mg/kg. Arsenic was detected in both samples, but one of them fell below the site background concentration and another one, although slightly exceeding background concentration, is still considered naturally occurred.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

Because arsenic is considered naturally occurred, that noncarcinogenic chemical remains onsite. The hazard index is 0.016, below the limitation of one. Based on this information, ADEC has determined that residual contaminant concentrations meet the human health cumulative risk criteria.

Exposure Pathway Evaluation

Following investigation and cleanup at the Site, exposure to the remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	DRO remains in the surface soil, but is below site-specific cleanup level.
Sub-Surface Soil Contact	De Minimis Exposure	DRO is not expected to exist in the subsurface soil above applicable cleanup level.
Inhalation – Outdoor Air	Pathway Incomplete	DRO is the only contaminant remains onsite and is not considered volatile for outdoor inhalation.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	DRO is the only contaminant remains onsite and is not considered volatile for indoor air intrusion.
Groundwater Ingestion	Pathway Incomplete	Groundwater table at the Site is expected at 100 ft. bgs or deeper and is not currently used as drinking water source.

Surface Water Ingestion	Pathway Incomplete	No surface water presents at any location within ¼ mile of the Site.
Wild and Farmed Foods Ingestion	De Minimis Exposure	Arsenic has potential to bioaccumulate but its detection level is considered naturally occurred in the area.
Exposure to Ecological Receptors	De Minimis Exposure	DRO impacted soil remaining in the surface is limited and below site-specific cleanup level, hence, is considered unlikely to adversely affect terrestrial or aquatic life.

Notes to Table 2: “De-Minimis Exposure” means that in ADEC’s judgment, receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. “Pathway Incomplete” means that in ADEC’s judgment, contamination has no potential to contact receptors. “Exposure Controlled” means there is an institutional control in place limiting land or groundwater use, and there may be a physical barrier in place that prevents contact with residual contamination.

ADEC Decision

Soil contamination at the Site has been addressed and the source of contamination has been removed and disposed offsite. Petroleum contamination remains in surface soil below approved cleanup level while arsenic concentration remains slightly above background level; however, ADEC has determined that there is no unacceptable risk to human health or the environment, and the Site will receive a “Cleanup Complete” designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325(i). A “site” [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. (See attached site figure)
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated Site Cleanup Complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with

18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, PO Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 269-0298, or email at linda.liu@alaska.gov.

Sincerely,



Linda Liu, PG
Environmental Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit, via Email
Kimberly DeRuyter, via Email